

What is claimed is:

1. A surface cooled heat exchanger including:
  - a substantially planar shim plate with spaced apart integral first and second end walls extending laterally therefrom;
  - a separately formed cover plate having a central wall with integral first and second side walls extending from opposite sides of the central wall;
  - the first and second side walls of the cover plate being sealably joined to respective side edges of the shim plate, the first and second end walls being sealably joined to respective ends of the cover plate, the central wall and shim plate being spaced apart with an internal fluid passage being defined therebetween with inlet and outlet openings provided in flow communication with the fluid passage to allow fluid to flow into, through, and out of the fluid passage.
2. The heat exchanger of claim 1 wherein two parallel ribs projecting towards the shim plate are formed across each of the ends of the cover plate for engaging therebetween a peripheral edge of the respective end walls.
3. The heat exchanger of claim 1 wherein the shim plate and cover plate are brazed to each other.
4. The heat exchanger of claim 1 wherein a rib projecting towards the shim plate is formed across each of the ends of the cover plate for engaging a peripheral edge of the respective end walls.
5. The heat exchanger of claim 1 including a support wall with a first side abutting against and secured to the shim plate and an opposite facing exposed second side.
6. The heat exchanger of claim 5 wherein a plurality of exposed cooling fins are provided on the second side.

7. The heat exchanger of claim 5 wherein two parallel ribs projecting towards the shim plate are formed across each of the ends of the cover plate for engaging therebetween a peripheral edge of the respective end walls.
8. The heat exchanger of claim 5 wherein the end walls are each formed from portions that have been partially cut from the planar shim plate and folded about a fold line to extend substantially perpendicular to the shim plate.
9. The heat exchanger of claim 5 wherein at least one flow circuiting baffle wall is provided in the fluid passage, the baffle wall being formed from a portion that has been partially cut from the planar shim plate and folded about a fold line to extend from the shim plate with a peripheral edge at least partially in engagement with an inner surface of the cover plate.
10. The heat exchanger of claim 9 wherein two parallel ribs are formed across the cover plate for engaging therebetween the peripheral edge of the at least one flow circuiting baffle wall.
11. The heat exchanger of claim 5 wherein a flow circuiting baffle wall extends laterally from the shim plate to partially block the fluid passage, the baffle wall and first and second end walls each being parallel to each other, the cover plate having formed thereon identical spaced apart sets of two parallel ribs, each set of two parallel ribs engaging there between an edge of a respective one of the first end wall, second end wall, and baffle wall.
12. The heat exchanger of claim 1 including a turbulizer in the fluid passage.
13. The heat exchanger of claim 1 wherein the first end wall is substantially planar and the inlet opening is provided therethrough, including an inlet fitting secured to the first end wall in flow communication with the fluid passage.
14. The heat exchanger of claim 13 wherein the second end wall is substantially planar and the outlet opening is provided therethrough, including an

outlet fitting secured to the second end wall in flow communication with the fluid passage.

15. The heat exchanger of claim 14 wherein the inlet opening and the outlet opening are located longitudinally opposite each other.

16. The heat exchanger of claim 15 wherein the central wall of the cover plate includes an outwardly extending manifold portion and a planar portion that extend between ends of the cover plate, the manifold portion being spaced further from the shim plate than the planar portion to define an enlarged manifold passage portion in the fluid passage, the inlet and outlet openings being located to communicate directly with the manifold passage.

17. The heat exchanger of claim 14 wherein the central wall of the cover plate includes spaced-apart first and second outwardly extending manifold portions and a planar portion therebetween, the manifold portions each being spaced further from the shim plate than the planar portion to define first and second enlarged manifold passage portions in the fluid passage, the inlet opening being located to communicate directly with the first manifold passage and the outlet opening being located to communicate directly with the second manifold passage.

18. The heat exchanger of claim 1 wherein the central wall of the cover plate includes a outwardly extending manifold portion and a planar portion, the manifold portion being spaced further from the shim plate than the planar portion.

19. The heat exchanger of claim 1 wherein an integral planar lateral flange is provided along the peripheral edge of each of the side walls, the planar lateral flanges being brazed to the shim plate.

20. A surface cooled heat exchanger including a substantially planar shim plate and a separately formed cover plate sealably joined about peripheral edges thereof and defining an internal fluid passage having inlet and outlet openings; and a flow circuiting baffle wall in the fluid passage, connected to and extending

from the shim plate towards the cover plate, the cover plate having a first rib formed thereon extending towards the shim plate and engaging an extending peripheral edge of the baffle wall.

21. The heat exchanger of claim 20 wherein the cover plate includes a second rib parallel to the first rib, the peripheral edge of the baffle wall being engaged between the first and second rib.

22. The heat exchanger of claim 20 including a support wall with a first side abutting against and secured to the shim plate and an opposite facing exposed second side, the baffle wall being formed from a portion that has been partially cut from the planar shim plate and folded about a fold line to extend from the shim plate.